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IN THE CLAIMS

Claims 1-3 (canceled)

4. (previously presented) A hip prosthesis comprising a shaft which is implantable in the femur, a ball head anchored on the shaft, a socket in which the ball head has a slide pairing diameter and is movably supported, and a bipolar shell has a sliding pairing diameter and is placed between the ball head and the socket, whereby the ball head rotates in the bipolar shell and the bipolar shell rotates in the socket, wherein the ratio of the slide pairing diameter of the bipolar shell and the ball head is between 1.05 and 5, wherein the ball head, the bipolar shell, and the socket are ceramic, wherein the tribological conditions of the ceramic components are defined as follows:

- a) the hardness of the ceramic components is greater than 1,000 HV (Vickers);
- b) the surface finishes on the articulating surfaces of the ceramic components have a roughness less than 0.1 μm (Ra value < 0.1 μm);
- c) the contact angle between the articulating surfaces of the ceramic components is between 1° and 8° (measured in Ringer's solution); and
- d) the difference in the slide pairing diameters of the articulating surfaces of the ceramic components is between 1 and 200 μm .

Claims 5-7 (canceled)

8. (previously presented) The hip prosthesis of claim 4, where said differences in the slide pairing diameters is between 20 and 120 microns.

Claims 9-11 (canceled)

12. (previously presented) The hip prosthesis according to claim 4 wherein the ratio of the diameters of the slide pairing of the bipolar shell and the ball head is 5.

13. (previously presented) The hip prosthesis according to Claim 12, wherein the slide pairing diameter of the bipolar shell is between 26 mm and 40 mm, the slide pairing diameter of the ball head is between 14 mm and 32 mm.

14. (currently amended) A hip prosthesis comprising a shaft which is implantable in a femur, and ceramic components including a ceramic ball head anchored on the shaft, a ceramic socket in which the ceramic ball head is movably supported, and a ceramic bipolar shell consisting of a single material, wherein the ceramic bipolar shell is placed between the ceramic ball head and the ceramic socket, wherein the ceramic ball head rotates in and directly contacts the ceramic bipolar shell and the ceramic bipolar shell rotates in the ceramic socket, wherein a ceramic ball head, a ceramic bipolar shell, and a ceramic socket, wherein the tribological conditions of the ceramic components are defined by a combination of the following features:

a) the hardness of the ceramic components have a hardness of greater is greater than 1,000 HV (Vickers);

b) the ceramic components have surface finishes on the articulating surfaces with surface finishes having of the ceramic components have a roughness less than 0.1 μm (Ra value < 0.1 μm);

c) the ceramic components have a contact angle between the articulating surfaces of the ceramic components is between 1° and 8° (measured in Ringer's solution); and

d) the difference in slide pairing diameters of the articulating surfaces of the ceramic components have a difference of between is between 1 and 200 μm .

Claims 15-16 (canceled)

17. (previously presented) The hip prosthesis of claim 13, wherein said slide pairing ball diameter is 22.2 mm.

18. (currently amended) The hip prosthesis of claim 14, where said difference differences in the slide pairing diameters is between 20 and 120 microns.

19. (canceled)

20. (previously presented) The hip prosthesis according to claim 12, wherein the slide pairing diameter of the bipolar shell is 32 mm.

21. (canceled) The hip prosthesis of claim 11, wherein the ratio of the slide pairing diameter of the bipolar shell and the ball head is between 1.05 and 5.